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Fig. 8.

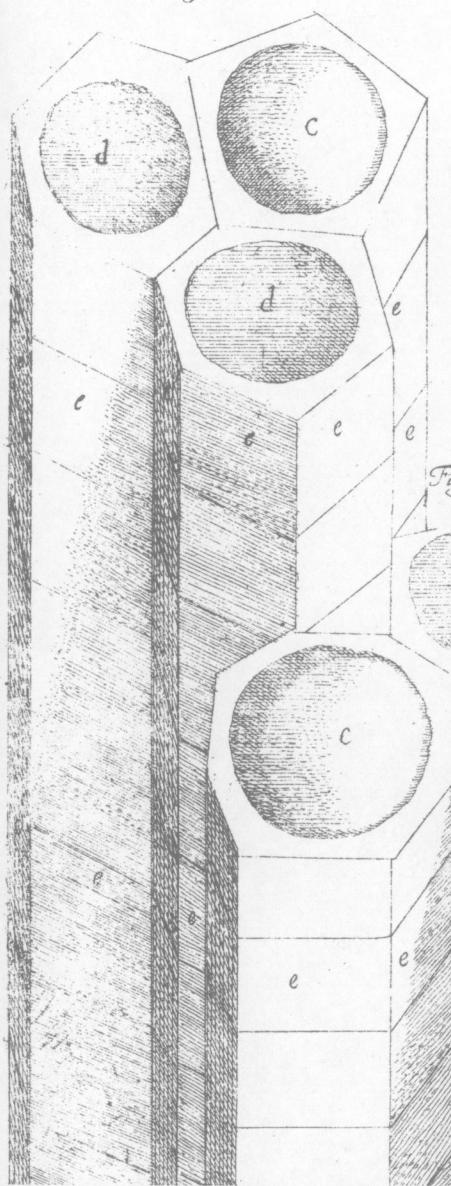


Fig. 7.

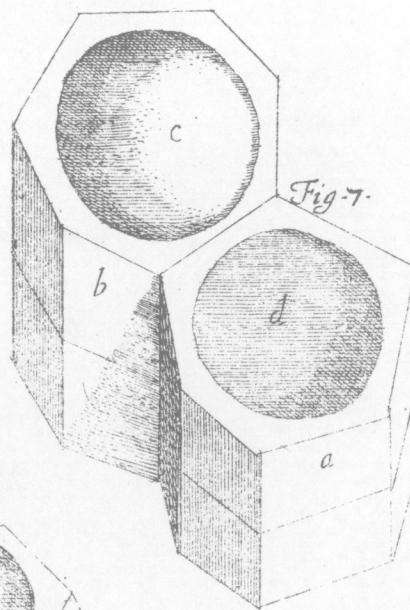


Fig. 6.

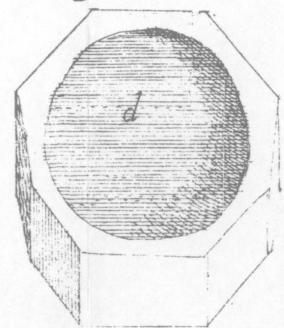


Fig. 5.

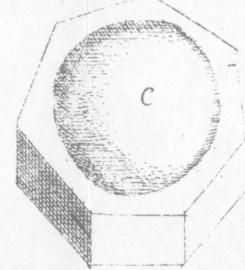


Fig. 3.

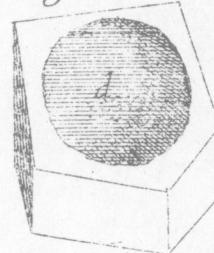
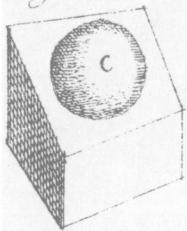


Fig. 2.



Enches

40	30	20	10	5
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Fig. 9.

Philosoph: Transact. N^o 241.

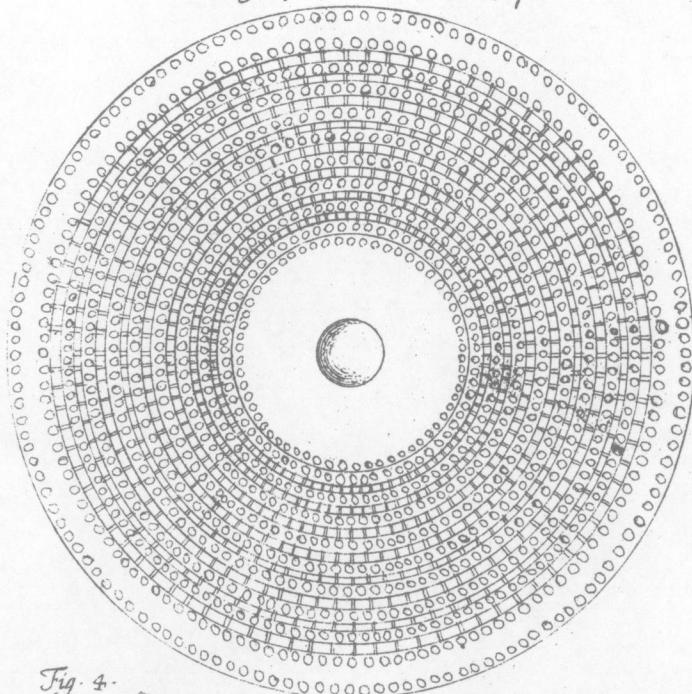


Fig. 6.

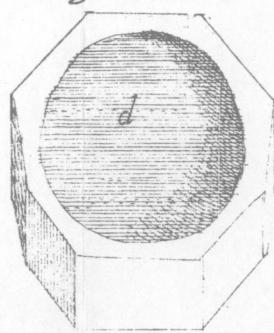


Fig. 7.



Fig. 5.

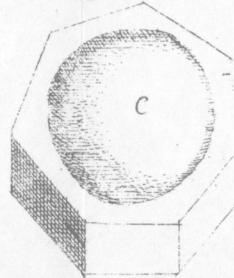


Fig. 3.



Fig. 2.

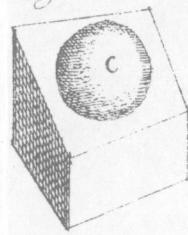


Fig. 4.

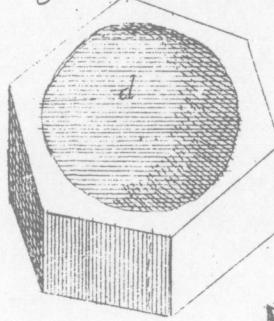


Fig. 6.

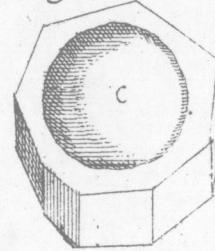
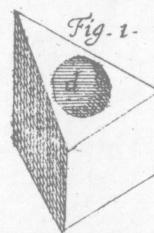


Fig. 1.



Inches

30 20 10 5

PHILOSOPHICAL TRANSACTIONS.

For the Month of May, 1698.

The C O N T E N T S.

I. *Part of a Letter from Mr. Ralph Thoresby, F. R. S. to Dr. Martin Lister, Fellow of the Colledge of Physicians, and R.S. concerning a Roman Sheild.* II. *A Letter from Dr. Thomas Molyneux, to Dr. Martin Lister, Fellow of the Colledge of Physicians, and R. S. Containing some additional Observations on the Giants Causway in Ireland.* III. *Epistola scripta à Raymundo Vieussens Doctore medico Monspeliensi ad Clarissimos Viros Societatis Regiae Londinensis, de Sanguine Humano. Communicated by Dr. Will. Briggs, Fel. of the Col. of Phys. and R.S.* IV. *Account of a Book, La Meridiana del Tempio de S. Petronio, &c. i. e. The Meridian Line of the Church of St. Petronio, drawn and fitted for Astronomical Observations, in the Year 1655. revised and restored in the Year 1695. by Signior John Dominico Cassini, Primary Astronomer of the School of Bononia Pontifical Mathematician, of the Royal Academy of Sciences, and Fellow of the R. S. Printed at Bononia 1695. in Fol.* V. *A Catalogue of Books lately printed, not mentioned in these Transactions.* VI. *Extracts out of some late Accounts and Letters.*

I. *Part of a Letter from Mr. Ralph Thoresby, F. R. S. to Dr. Martin Lister, Fellow of the Colledge of Physicians and R. S. concerning a Roman Sheild.*

SInce my former, having procured an old *Roman Shield*, of a different form from that I had before, and observing them both to be of different Materials from the usual Descriptions of them (which I also apprehend to be in other parts defective)

fective) I resolved to make a more particular Inspection into their Texture, and whereas they are generally said to be *è ligno, corio superinducto*, upon a strict Survey, there is nothing of Wood, but the Handle, in either of them. The Ancient *Romans* I observe had Three Words, *Scutum, Parma, & Clypeus*, for that defensive Weapon we generally English a *Sheild*, which notwithstanding their different Forms or Matter, their Authors (especially in the Declension of the Empire) frequently confound; as, if I mistake not, we do *Sheild, Buckler, and Target*. The *Scutum, & Clypeus*, in Form, *quaenam rotunda, & in orbem justum relata, Clypeos dixere*, (and of this sort are those votive shields upon the Columns or Trunk of Palm Trees, inscribed, *VIC. AVG. or DAC. PAR. &c. in their old Coins*) *qua in longum exhibant, Scuta*, both the *Scutum* and *Parma*, are by very good Authors, as well more ancient as modern, positively said to be of Wood covered with Leather, and so particularly Mr. *Ob. Walker*, in his late ingenious *Hist. of Coins*; but the ensuing Description will evince, that *Bernardus ipse non videt omnia*. This Sheild or Buckler is of the *Parma* Kind, and rightly so called, *quod è medio in omnes partes sit par*, whereas the *Scutum* was mostly Oval, tho' sometimes *imbricatum*, with Corners equally broad; it is Fifteen Inches Diameter, whereof a little more than a third part is taken up with the *Umbo*; or protuberant Boss at the Navel, which is made of an Iron Convex Plate, wrought hollow on the inside, to receive the Gladiator's Hand, upon the Center of this is a lesser Boss, wherein there seems to have been fixed, some kind of *Cuspis*, or sharp offensive Weapon, to be used when they came to fight Hand to Hand, but the Form of this I cannot describe, both the Sheilds being defective in that point; nor can I receive any Light from my Collection of Coins, for tho' it seem to be the same that *Mars Bellator* or *Gradivus* (for *Mars Quirinus* is not armed or marching) is usually described with, yet the Sheild being carried in the Left-Hand, only the Back Part of it is apparent. From the laid *Umbo* the Sheild is Four Inches and an half broad on each side, in which are 11 circular equidistant Rows of Brazen Studs of that Size, that *Vide Fig. 9. 222* are set in the outmost Circle, which is 4 Foot wanting 3 Inches, (for that is the Circumference of the Buckler) and so proportionably in the lesser Circles to the Center of these 11 Rows of Brazen Studs, the inmost Circle is placed upon the *Umbo*

Umbo it self, the next 8 upon as many circular Plates of Iron, each a third of an Inch broad. The two outermost upon one thicker Plate an Inch broad : in the little Intervals between these circular Plates are plainly discovered certain crofs *Lamine*, that pass on the Back of the other, from the *Umbo* to the exterior Circle ; and these Iron Plates are also about the third part of an Inch at the broader End towards the Circumference, but gradually contracted into a narrower Breadth, that they may be brought into the Compas of the *Umbo* at the Center. The inner Coat next to those Iron Plates (for I cut it a little open behind, that I might more distinctly discern the Work) is made of very thick hard strong Leather, which cuts bright, somewhat like Parchment. Upon that is a second Cover of the same, and on the outside of this are plaited the Iron Pins that run through the Brass Studs ; for the above-mentioned Brass Studs are cast purely for Ornament upon the Heads of the said Iron Pins the sixth part of an Inch long, that none of the Iron appears : this reminds me of *Julius Cesar's* Policy, who, as *Suetonius* tells us, countenanced this piece of Pride or Ostentation in his Army, *ut Argento & Auro politis Armis ornaret, simul & ad speciem, & quo tenaciores eorum in prælio essent, metu damni.* The next Cover to the plaiting of the said Nails (which pass through the circular and cross Iron Plates, and both the Leather Covers) is a pure linnen Cloth, but discoloured, though perhaps not with Age only, but sower Wine and Salt, or some other Liquid wherein it seems to have been steeped. And lastly, upon the said Linnen is the outmost Cover, which is of softer Leather, all which Coats that compose the Sheild, are bound together by two circular Plates of Iron, a thin and narrow one towards the Center, and a thicker and large one, an Inch broad at the Circumference, which is curiously nailed with two rows of very small Tackets, above 400 in Number, the vacant Holes whence some of the Nails are dropt out, are little bigger than to admit the Point of a Pair of small Compasses, both which Rims do likewise fasten the Handle (the only part of Wood) which has also Six other Iron Plates about three or four Inches long, to secure it.

That Sheild which I lately procured, differs not so much in Size (though it is compleatly a Foot larger in the Circumference) as in the Form, for whereasthis already described is almost flat, except the swelling *Umbo*, this is absolutely *Concave*, and

and from the Skirts of the protuberant Boss in the middle, it rises gradually to the Circumference, which is nigh three Inches perpendicular from the Center; this has Fourteen Rows of the like Brass Studs, but the circular Plates of Iron they are fixed in, do not lie upon other cross Plates, as the former does, but each from the Center, upon the outer Edge of the other, which occasions its rising in that Concave manner.

That these were part of the Acoutrement of the Roman *Equites*, rather than either the *Velites* or *Hastati*, I conclude, because that, though all in general had Sheilds, yet those of the *Velites*, who were as the *Forlorn Hopes*, seem more slight, and are expressly said to be, *è ligno corio superinducto*, those of the *Hastati* are not only said, *e pluribus lignis & asperculis constit*, &c. but were also Four Foot long to cover the whole Body, when stooping; of which kind were likewise those of the *Principes* and *Triarii*. Whereas the Description that the Anonymous Author of *Roma Illustrata* with *Fabricius*'s Notes, gives in his *Armatara Equitum*, comes the nighest this, *Scutum five Parmam habebant ex bovillo corio, arte leviter durata*, but then he adds, *coque mero, nulla materie subiecta*, omitting not only the ornamental Studs, but the Iron Work, which *Camillos* first contrived as a defence against the immense Swords of the *Gauls*. I have endeavoured to make this Description more intelligible by a Draught of the Sheild above-mentioned. *Vide Fig. 9.*

Leeds, 26 Febr. 1697.

P O S T S C R I P T.

Having heard of some Roman Coins lately plow'd up about *Nottingham*, I procured a Parcel of them, but they prove common, and most of *Tetricus*, tho' some also of *Gallienus*, *Victorinus*, and *Claudius Gothicus*.